

## AGE AT COITARCHE AMONG SECONDARY SCHOOL STUDENTS IN JOS

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### ABSTRACT

**BACKGROUND:** the age of first sexual intercourse is important in gynecological practice. Ranging from STIs to cervical cancer. It can be influenced by substances such as alcohol. a better understanding of the determinants of the age at first sex is crucial for HIV/STI prevention programs.

**OBJECTIVES:** the aim was to determine the age of sexual debut among secondary school students and Factors associated with early Sexual initiation.

**METHOD:** the study was a cross sectional study among senior secondary students in both private and public school. Student who consent to the study were giving questionnaires to fill

**RESULTS:** There were a total of 400 students. The mean age of coitarche among females was  $14.2 \pm 2.78$ . The mean coitarche age for the males was  $12.62 \pm 3.51$ .

**CONCLUSION:** The mean age of coitarche among females and males were 14 and 12 respectively. The male had earlier sexual debut. On the type of school, private schools had higher proportion of early sexual debutants than public schools. The age at sexual debut is associated with pregnancy and STIs.

**RECOMMENDATION:** The availability of Adolescent clinic, accessible family planning methods with organized sex education for these secondary school students could go a long way in curtailing early coitarche and its attending consequences.

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### INTRODUCTION

Of 10-24 year olds in the world, close to 85% of these young men and women live in developing countries<sup>1</sup>. Based on proportion, one in five and one in twelve of sexually active females and males respectively, had already engaged in sexual intercourse by the age of 15.<sup>2</sup> Findings from National AIDS and Reproductive Health Survey show that the median age of sexual debut among youths is 17years in females and 21years in males<sup>2</sup>. A common feature of young people in Nigeria is their potential vulnerability to Sexually Transmitted Infections (STI) including HIV.<sup>2</sup> in Nigeria, The median age of first sex among

never-married males and females were 17 years and 18 years respectively; more than one in five adolescents have had sex before age 16.<sup>3</sup> Prevalence of sexual intercourse was 25.7%<sup>4</sup>. In the US, 40.8% of tenth-graders (usually 15-years-old) reported ever having sexual intercourse<sup>5</sup>. A survey conducted in the same year in 32 nations found the prevalence of ever having sexual intercourse among 15-year-olds varied from a low of 15% in Poland to a high of 75% in Greenland.<sup>6</sup>

How one defines “early” sexual intercourse, however, is not clear. Whether “early” debut should be defined according to the statistical distribution of age at first intercourse within the country of residence, or whether early should be defined by a developmentally driven health standard that reflects adverse consequences to the individual stemming from physical and/or emotional immaturity, has not been adequately

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examined in the literature<sup>7</sup>.

Early sexual intercourse varies by gender and how it is associated with unhealthy behavior and factors of psycho-social well being. Early sexual experience in boys was associated with smoking, drinking of alcohol, marijuana consumption, physical fighting, and bullying others (the odds ratio was highest for smoking). For girls the same variables were associated with the early sexual intercourse, marijuana use being the strongest independent predictor<sup>8</sup>

Coitarche before age 15 is related to early menarche and high perceived social age. Sexual abuse is alleged more often by early starters.<sup>9</sup> One in 20 women with early coitarche and one in six with very early coitarche (before age 15) reported coercion<sup>10</sup>. Individuals with early coitarche were more likely to report higher risk sexual behaviour as well as teenage motherhood and, for men, not having used a condom at coitarche and bacterial sexually transmitted infections<sup>10</sup>

It has also being found that there is association between exposure to lyrics describing degrading sex in popular music and early sexual experience among adolescents<sup>11</sup> Degrading sex is defined as sex that (1) is based only on physical characteristics and (2) contains a power differential instead of being mutually consensual<sup>12,13,14</sup>. Youths who were unsupervised for 30 or more hours per week were more likely to be sexually active compared with those who were unsupervised for 5 hours a week or less (80% vs 68%). In addition, for boys, the greater the amount of unsupervised time, the higher the number of lifetime sex partners. Among girls but not among boys, sexual activity was associated with nonparticipation in after-school programs; 71% of those who were not participating in an after-school activity were sexually active compared with 59% of those who were participating. Boys who were unsupervised >5 hours per week after school were twice as likely to have gonorrhea or chlamydial infection as boys who were unsupervised for 5 hours or less.<sup>15</sup> In sub-Saharan Africa, where the prevalence of HIV and other STIs is high, a better understanding of the determinants of the age at first sex is crucial for HIV/STI prevention programs. Prevention programs should not only

aim at delaying the age at first sex but also address factors leading to early age at first sex. This study aims to demonstrate the average age at coitarche among secondary school pupils in Jos,

## **OBJECTIVES**

### **GENERAL**

To determine the age of coitarche among secondary school students in Jos

### **SPECIFIC OBJECTIVES:**

1. To determine the age of sexual debut among secondary school students
2. To determine Factors associated with early Sexual initiation (before the age of 16)
3. To determine average age of menarche and its association among secondary school students

### **Methodology**

A multistage sampling technique was adopted. First, a cluster sampling was used to select mixed schools divided into private and public schools (2 private and 2 public) were randomly selected. Then a consent was obtained from the school principal/Teacher. A purposive sampling was employed as only senior students' were interviewed and these students were selected using a simple random sampling. Student who consent to the study were giving questionnaires to fill. inclusion criteria were student who were in senior class who consented. Exclusion criteria were students in junior class and those who declined to be involved in the study. Strict confidentiality was ensured by not having names on the questionnaire and each student filled the questionnaire privately on their own

## SAMPLE SIZE DETERMINATION

The sample size was determined using the formula

$$n = \frac{Z^2 Pq}{d^2}$$

Where: n= Minimum sample size

Z= Standard normal deviate value of 95% (0.95) confidence interval

read from standardized normal distribution table = 1.96

P= estimated prevalence in the target population on the basis of

previous studies, expressed as fraction of 100%

q= 1-p

d= precision (degree of accuracy)

For this study:

P= (Prevalence of sexual intercourse in secondary school<sup>4</sup>) =25.7%

(0.257)

d= 5% (0.05)

q=1-p (1-0.257) = 0.743

i.e.  $n = \frac{1.96^2 \times 0.257 \times 0.743}{0.05^2}$  0.73355

n= 293 (minimum sample)

A sample size of 400 was used after considering an attrition rate of 40%

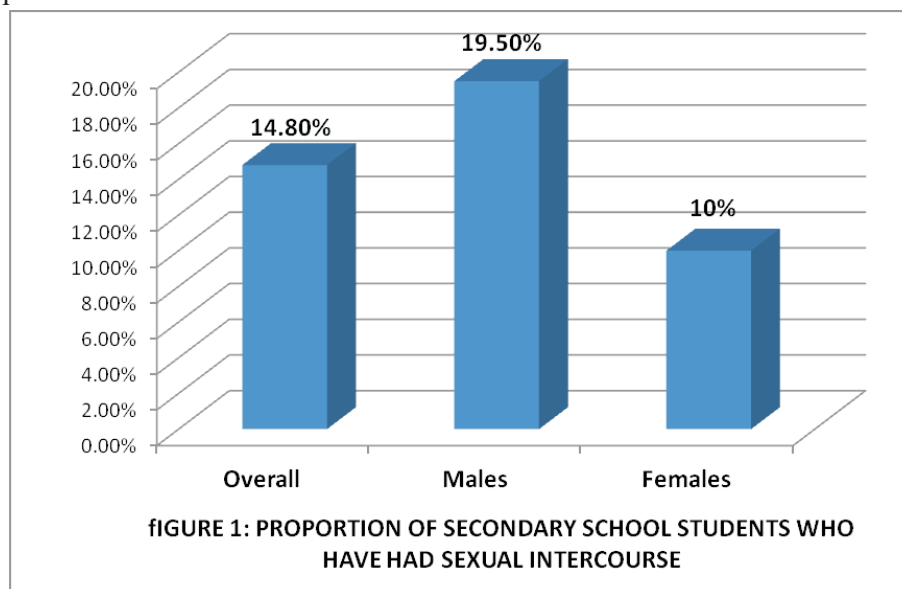
## 3.8 DATA ANALYSIS

Data analysis was carried out using Statistical Package for Social Science (SPSS version 16.0). Data on the background characteristic was summarized into frequency tables and charts. Chi-square statistics was used for comparing proportions of categorical variables between males and females and also between secondary school students who had attained coitarche and those who had not. Student's 't' test was used for comparing means between males and females. Correlation was carried out between Continuous variable such as age at coitarche and age at menarche. The Level of significance was set at P<0.05.

## RESULTS

There were a total of 400 students. 200 students were from public and private school each. Overall 14.8% of the students have had sexual intercourse. On the type of school, 12.5% of public school students have had sexual intercourse in comparison to 17 % of private. The female students' age range was 14.22 - 17.38. The mean age of coitarche among females was 14.2±2.78. The mean coitarchial age for the males was 12.62±3.51. Using early sexual debut<16years, 70% of the females had the sexual debut before 16years of age while 74% of the male had the sexual debut before 16. Other results are as in figures and tables below (Figure I and Tables I-VII)

Figure I



$\chi^2=7.177, df=1, p=0.007$

**TABLE I**  
PROPORTION WITH EARLY SEXUAL INTERCOURSE ACCORDING TO TYPE OF SCHOOL

SEXUAL INTERCOURSE	PUBLIC n(%)	PRIVATE n(%)	TOTALn(%)
Yes	25 (12.5%)	34 (17.0%)	59 (14.8%)
No	175 (87.5%)	166 (83.0%)	341 (85.2%)
Total	200(100.0%)	200(100.0%)	400 (100%)

$\chi^2=1.610, df=1, p=0.204$

TABLE II

	Males	Females	Total	t-test	p-value
Age	16.15±1.70	15.83±1.58	15.99±1.65	1.98	0.049
coitarche	12.62±3.51	14.2±2.78	13.15±3.35	1.75	0.085

**TABLE III**  
CORRELATION BETWEEN MENARCHE AND COITARCHE

Mean coitarche	Mean menarche	correlation	p-value
14.2±2.78	13.1±1.12	0.247	0.294

TABLE IV

	Males n(%)	Females n(%)	Total n(%)
<b>Early sexual intercourse -Yes</b>	29 (74.4%)	14 (70.0%)	43 (72.9%)
<b>Early sexual intercourse -No</b>	10 (25.6%)	6 (30.0%)	16 (27.1%)
<b>sexual PARTNERS- Single</b>	10(25.6 %)	8 (40.0%)	18 (30.5%)

<b>sexual PARTNERS- Multiple</b>	29(74.4 %)	12 (60.0%)	41 (69.5%)
<b>EARLY SEXUAL INTERCOURSE CONSENT- YES</b>	12(30.8 %)	4 (20.0%)	16 (27.1%)
<b>EARLY SEXUAL INTERCOURSE CONSENT-NO</b>	27(69.2 %)	16 (80.0%)	43 (72.9%)

**TABLE V  
COITARCHE AND STDs, CONDOM/PILL USAGE**

Early sexual debut	Males n(%)		Females n(%)		Overall n(%)	
	Yes	No	yes	no	yes	No
<b>STD -Yes</b>	2(6.9%)	1 (10.0%)	2 (14.3%)	1 (16.7%)	4 (9.3%)	2(12.5%)
<b>STD-No</b>	27 (93.1%)	9 (90.0%)	12 (85.7%)	5 (83.3%)	39 (90.7%)	14(87.5%)
<b>Use Condom/ Pill -YES</b>	8(27.6%)	3 (30.0%)	2 (14.3%)	1 (16.7%)	10 (23.3)	4(25.0%)
<b>Use Condom/ Pill-NO</b>	21 (72.4%)	7 (70.0%)	12 (85.7%)	5 (83.3%)	33(76.7%)	12(75.0%)

**COITARCHE AND USE OF CONDOM/PILLS  $X^2=0.019, df=1, p=0.890$**

**ONLY ONE CASE OF FIRST SEXUAL INTERCOURSE RESULTED IN PREGNANCY**

Contraceptive usage: condom and pills

To determine Factors associated with early Sexual initiation (before the age of 16)- single parent, evening spent out with Friends, early menarche, smoking, alcohol, premature adult live (feeling older), psychological problem etc

**TABLE VI**

**FACTORS PREDICTING EARLY COITARCHE AMONG MALE STUDENTS**

VARIABLES			COITACHE < 16 YRS	COITACHE 1 6	X <sup>2</sup>	P- VALUE
SMOKING	MALE	YES	2(6.9%)	1 (10.0%)	0.101	0.999
		NO	27(93.1%)	9(90.0%)		
	FEMALE	YES	0 (0.0%)	0 (0.0%)	0.11	1.00
		NO	14(100%)	6 (100%)		
EVENING OUTINGS WITH FRIENDS -	MALE	YES	17(58.6%)	4 (30.0%)	1.037	0.467
		NO	12(41.4%)	6 (70.0%)		
	FEMALE	YES	2(14.3%)	2 (33.3%)	0.952	0.549
		NO	12(85.7%)	4 (66.7%)		
LIVING WITH SINGLE PARENT	MALE	YES	7(24.1%)	2 (20.0%)	0.070	0.792
		NO	22(75.9%)	8 (80.0%)		
	FEMALE	YES	4 (28.6%)	2 (33.3%)	0.043	0.836
		NO	10(74.1%)	4 (66.7%)		
FEELING OLDER THAN REAL AGE	MALE	YES	13(44.8%)	6 (60.0%)	0.668	0.414
		NO	16(55.2%)	4 (40.0%)		
	FEMALE	YES	4 (28.6%)	2 (33.3%)	0.043	0.836
		NO	10(74.1%)	4 (66.7%)		
ALCHOL CONSUMPTION	MALE	YES	4(13.8%)	1 (10.0%)	0.021	0.885
		NO	25(86.2%)	9 (90.0%)		
	FEMALE	YES	1 (7.1%)	0 (0.0%)	0.001	1.000
		NO	13(92.9%)	6 (100%)		
HAS PSYCHOLOGICAL PROBLEMS	MALE	YES	4 (13.8%)	1 (10.0%)	0.093	0.760
		NO	25(86.2%)	9(90%)		
	FEMALE	YES	2(14.3%)	2 (20.0%)	0.131	0.717
		NO	12(85.7%)	8(80%)		

**NO CASE OF EARLY MENARCHE**

**TABLE VII**  
**FACTORS PREDICTING EARLY COITARCHÉ AMONG SECONDARY SCHOOL STUDENTS**

VARIABLES		COITACHE < 16 YRS	COITACHE ≥	X <sup>2</sup>	P- VALUE
SMOKING	YES	2 (4.7%)	1(6.2%)	0.027	0.824
	NO	41(95.3%)	15(75.0%)		
EVENING WITH FRIENDS	YES	19 (44.2%)	6(37.5%)	0.210	0.644
	NO	24(55.8%)	10(72.5%)		
LIVING WITH SINGLE PARENT	YES	9 (20.9%)	3(18.8%)	0.034	0.854
	NO	34(79.1%)	13(81.2%)		
FEELING OLDER THAN REAL AGE	YES	17 (39.5%)	8(50.0%)	0.335	0.563
	NO	24(60.5%)	8(50.0%)		
ALCHOL CONSUMPTION	YES	5 (11.6%)	1(6.2%)	0.011	0.954
	NO	38(88.4%)	15(93.8%)		
PSYCHOLOGICAL PROBLEMS	YES	6(14.0%)	3 (18.8%)	0.204	0.652
	NO	37(86.0%)	13(81.2%)		

## DISCUSSION

The onset of sexual debut has many medical ramifications, not to mention condition such as cervical cancer. This study found that 10% of the female students have had sexual intercourse.

There were a total of 400 students. 200 students were from public and private school each. Overall 14.8% of the students have had sexual intercourse. On the type of school, 12.5% of public school students have had sexual intercourse in comparison to 17 % of private. The female students' age range was 14.22 - 17.38. The mean age of coitarche among females was 14.2±2.78. The mean coitarchial age for the males was 12.62±3.51. this means the males had earlier average sexual debut compared to their female counterpart. Using early sexual debut <16years, 70% of the females had the

sexual debut before 16years of age while 74% of the male had the sexual debut before 16 Overall 14.8% of the students have had sexual intercourse.

The overall proportion of students who had sex was less compared to that done in southern Nigeria where the prevalence of sexual intercourse was 25.7%<sup>4</sup>. In a study done in Europe, three out of four respondents have had a sexual experience and one out of two have had penetrative sexual intercourse<sup>17</sup>. In another study, 64% of the girls had experienced their first intercourse<sup>9</sup>. This however is high compared to what was gotten in this study (14.8%). That obtained in Asia was lower: 6.31% boys and 1.31% girls reported having had experienced sexual intercourse<sup>18</sup>. On the type of school, 12.5% of public school

students have had sexual intercourse in comparison to private (17%). These show that the proportion of students who had sexual intercourse was higher in the private schools than that in the public school.

The mean age of coitarche among females was  $14.2 \pm 2.78$ . The mean coitarchial age for the males was  $12.62 \pm 3.51$ . This shows that the male counterparts experienced earlier sexual debut than their female counterparts. This could be explained by the male counterpart being more adventurous or peer influences.

The mean menarchial age in this study was  $13.1 \pm 1.12$ . There was however no significant association between menarche and coitarche ( $p = 0.294$ ).

70.0% of the female, and 74% of the male population studied had early sexual intercourse (sexual debut before the age of 16). However, these results are higher than their European counterparts who had early sexual experience in 28.6% of the boys and 16.5% of the girls<sup>8</sup>. This could be to higher socioeconomic life style of the European and sex education programs available in these country.

Adjusted for proportion of those who had early coitarche and number of sexual partners, the females had more of single sexual partners (40%) than their male counterparts (25%). However the males had more multiple sexual partners (74%) than the females (60%).

The main factor associated with early sexual debut in men was not living with both parents up to the age of 15<sup>10</sup>. This could be as a result of poor parentage supervision from single parenthood. Early sexual debut is associated with an earlier menarche and a more premature adult life-style and is an important indicator for risky behavior regarding reproductive health<sup>19</sup>. A child

assuming an adult life would think they are matured enough to commence sexual intercourse. However this study found no significant association between early coitarche and single parent, evening spent out with Friends, early menarche, smoking, alcohol, premature adult life (feeling older), psychological problem as well as early menarche.

Only one case of sexual debut resulted in pregnancy. Fewer proportions of females who had early coitarche reported STIs (14.3%) as compared to those who did not have STIs among the early sexual debutants (85.7%). This also applies to their male counterparts (6.9 Vs 93.1%). These could be the the sexual debuts and their partner avoid risky sexual practices such as multiple sexual partners.

Contraceptive usage among the secondary school early sexual debutants was quite low; the females having 14.3% and the males having 27.6%. On the contrary, the use of condoms was high among Swiss adolescents, particularly at first sexual intercourse (86.5%)<sup>17</sup>. This could be a reflection of effects of adolescent contraceptive program of the country.

The onset of sexual activity represents an important developmental stage with positive aspects, such as love, discovery, intimate relationships, plans for the future, but also with fears of pregnancy, of sexually transmitted infections including HIV and AIDS.<sup>17</sup> By integrating the prevention of sexually transmitted diseases and of unwanted pregnancies, preventive programmes would address adolescents' needs more effectively<sup>17</sup>.

## LIMITATIONS

Being a school based study, age of coitarche, age of menarche and factors affecting the age of menarche observed in this study may



not be a true reflection of that in the community. Recall bias may play a role as some student may not remember the exact age of coitarche or menarche. Despite confidentiality being stressed during the questionnaire administration, some students may be weary of their co-pair knowing about their sexual history and hence fear the associated stigmata that may ensure

### Conclusion

The mean age of coitarche among females was 14.2±2.78. The mean coitarchial age for the males was 12.62±3.51. Mean menarchial age was 13.1±1.12; however, the association between menarche and coitarche was not significant. On the type of school, private schools had higher proportion of early sexual debutants than public schools. The age at sexual debut is associated with pregnancy, STIs and cervical cancer. Adolescent clinic and family planning couple with organized sex education could go a long way in curtailing early coitarche and its attending consequences.

### QUESTIONNAIRES

#### AGE AT COITARCHE AMONG FEMALE SECONDARY SCHOOL STUDENTS IN JOS

I am .....from the department of Obstetrics and Gyneacology, Jos University Teaching Hospital. I am carrying out a research on the AGE OF COITARCHE AMONG SECONDARY SCHOOL STUDENTS IN JOS. All information that will be provided will be treated confidentially and will be used only for the purpose of this research. Thank you for your cooperation.

1. Class.....
2. Sex (a) male (b) female
3. Age.....
4. Father/guardian's occupation (a) civil servant (b) business (c) farmer (d) artisan other....

5. Mothers occupation (a) civil servant (b) business (c) farmer (d) artisan other....
6. Who are you currently living with? (a) single parent (b) both parents (c) uncle or aunt (e) elder sibling (f) others.....
7. At what age did you have your first menstruation.....
8. When was your last menstrual period
9. At what age did you have your first sexual intercourse.....
10. Did you have sexually transmitted disease following your first sexual intercourse? (a) Yes (b) No
11. If yes did you have it treated (a) Yes (b) No
12. Did your first sexual intercourse result in pregnancy? (a) Yes (b) No
13. How many times have you been pregnant?.....
14. How many times have you had abortions? .....
15. Numbers of previous deliveries.....
16. Was your first sexual intercourse by your consent? (a) Yes (b) No
17. Were you having any psychological problem just prior to your first sexual intercourse (a) yes (b) no
18. How many sexual partners do you have?.....
19. Have you ever been raped? (a) Yes (b) No
20. What relationship do you have with the rapist? (a) Don't know him (b) uncle (c) neighbor (d) father (e) step father (f) brother (g) in-law (h) others, specify.....
21. Did you use condom or pill in your last sexual encounter? (a) yes (b) no
22. Do you smoke cigarette? (a) yes (b) no
23. Do you drink alcohol? (a) Yes (b) no
24. Do you have evening spent out with friends? (a) yes (b) no

25. Do you feel older than your real age?  
(a) yes (b) no

**AGE AT COITARCHE AMONG MALE SECONDARY SCHOOL STUDENTS IN JOS**

I am..... from the department of Obstetrics and Gyneacology, Jos University Teaching Hospital. I am carrying out a research on the AGE AT COITARCHE AMONG SECONDARY SCHOOL STUDENTS IN JOS. All information that will be provided will be treated confidentially and will be used only for the purpose of this research. Thank you for your cooperation.

1. Class .....
2. Sex (a) male (b) female
3. Age.....
4. Father/guardian occupation (a) civil servant (b) business (c) farmer (d) artisan (e) others specify.....
5. Mothers occupation (a) civil servant (b) business (c) farmer (d) artisan other....
6. Who do you currently reside with? (a) single parent (b) both parents (c) uncle or aunt (e) elder sibling (f) others specify.....
7. When did you start seeing hairs in your pubic area (private part)?
8. At what age did you have you first sexual intercourse.....?
9. Did you have sexually transmitted disease following your first sexual intercourse? (a) Yes (b) No
10. If yes did you have it treated (a) Yes (b) No
11. Did your first sexual intercourse resulted in pregnancy ? (a) Yes (No) No
12. Was your first sexual intercourse by your consent? (a) Yes (a) No
13. Were you having any psychological problem just prior to your first sexual intercourse (a) yes (no)

14. How many sexual partners do you have?.....
15. Have you ever been raped?(a) yes (b) no
16. What relationship do you have with the rapist? (a) Don't know him (b) uncle (c) neighbor (d) father (e) step father (f) brother (g) in-law (h) others specify.....
17. Have you ever raped a woman? (a) yes (b) no
18. Did you use condom in your last sexual encounter? (a) yes (b) no
19. Do you smoke cigarette? (a) yes (b) no
20. Do you drink alcohol? (a) Yes (b) no
21. Do you have evening spent out with friends? (a) yes (b) no
22. Do you feel older than your real age? (a) yes (b) no

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